DOE/HREC-ID-205

DOE READING ROOM
DOCUMENT TO BE RELEASED

T070331

1. Location of Reading Room:	2. Expected Release Date:
Idaho Operations Public Reading Room 1776 Science Center Dr. University Place Idaho Falls, ID 83403	May 15, 1995

3. Document Type:

[X] Letter
[ ] Memorandum
[ ] Report
[ ] Publication
[ ] Other (Specify)

a. If letter or memo:
To: W. P. Gammill, Chief, HP Branch
From: Norman F. Islitzer, MIC, USWBRS
Subject: COMMENTS ON "SPERT I LOW-ENRICHMENT OXIDE CORE DESTRUCTIVE TEST PROGRAM SAFETY ANALYSIS REPORT", (IDO-16906)

b. If report:
Title:

4. Document Date:	c. If publication:
Oct. 3, 1963	Name: Volume: Issue:

5. Summary (2-3 lines indicating the major subject(s) of the document): Islitzer noted problems with predicted dose calculations; he offered his calculations and the basis for them.

6. Name and telephone number of person completing form:	7. Organization:	8. Date:
Burton R. Baldwin (208) 525-0203	Lockheed Idaho Technologies Co.	March 29, 1995

[ ] Check here if a copy of the document is being sent to Headquarters.

HUMAN RADIATION EXPERIMENTS

RECORDS PROVENANCE FORM

REPOSITORY NAME	INEL
COLLECTION NAME	SPECIAL POWER EXCURSION REACTOR TEST (SPERT)
BOX NUMBER	INEL BOX NO. 22305 FRC AGENCY BOX NO. 30 FRC NO. 150673 ACCESSION NO. 430 78 0073
ADDITIONAL LOCATION INFORMATION	THE BOX IS STORED AT THE FEDERAL RECORDS CENTER (FRC) IN SEATTLE, WA. INEL RECORD STORAGE RECEIPT NUMBER IS 2506 FOLDER: SPERT 1963
FILE TITLE	COMMENTS ON "SPERT I LOW-ENRICHMENT OXIDE CORE DESTRUCTIVE TEST PROGRAM SAFETY ANALYSIS REPORT", (IDO-16906)
TOTAL PAGES	
BATE NUMBER RANGE	
DOCUMENT NUMBER RANGE	

HEI FORM DOCUMENT NO.: T070038
DOCUMENT NO.: T070331
DOCUMENT TITLE: COMMENTS ON "SPERT I LOW-ENRICHMENT OXIDE CORE DESTRUCTIVE TEST PROGRAM SAFETY ANALYSIS REPORT", (IDO-16906)
CROSS REFERENCES:
ITEMS OF INTEREST:

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : W. P. Gammill, Chief
Health Physics Branch

DATE: October 3, 1963

FROM : Norman F. Islitzer, MIC
U. S. Weather Bureau Research Station

SUBJECT: Comments on "SPERT I Low-Enrichment Oxide Core Destructive Test Program Safety Analysis Report", (IDO-16906)

SYMBOL: NFI:LGT

A review of the hazards evaluation for a 1.8 millisecond core destruct test in the above mentioned document indicates that the hazards calculations were rather incomplete. Inhalation dose calculations were not made and the methods of whole body dose calculations from a passing cloud and the meteorological parameters used in the calculations were not given. The assumed conditions of the fission product release, namely 250 megawatt second excursion energy and a 50% release of Halogens, 1% release of solids, and 100% release of noble gases for a total of 16% of the fission product inventory appear reasonable. With these release assumptions we have made the following estimates of doses:

Doses for Strong Lapse Conditions

Distance	Whole Body Dose From Passing Cloud (mrem)	Inhalation Dose (mrem)
1 mile	40	34
CPP (3 miles)	3.7	5
NRF (7 miles)	.12	1
EBR II (11 miles)	.03	0.5

The off-site ingestion dose towards the northeast boundary of the NRTS is estimated to be less than 30 mr. The whole body dose calculations given above are similar to the ones given in figure 14, page 27 of the report. It appears that the dose levels at other inhabited areas in case of a wind shift off the grid during lapse conditions should not be a serious problem.

Calculations made for the inversion conditions in the report do not appear to be correct, that is, they seem to be low. However, a critical review for inversion conditions has not been made by this office since operational controls can be exercised so that this atmospheric condition will not be credible during the test.

The wind direction limits for the experiment, 180° to 260°, listed on page 21 should be clarified to indicate that this direction range can only be allowed for short period wind direction excursions. The prevailing wind direction must be restricted to a sector 200° $\pm$ 20° to insure that the major part of the fission product trajectory will not intercept an inhabited area.

Norman F. Islitzer
Meteorologist in Charge

cc: Don Pack, EMRP